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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,928	07/20/2000	KOICHI IKEMOTO	MAT-793US	6704

7590 06/24/2003

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EXAMINER

LEE, KYUNG S

ART UNIT PAPER NUMBER

2832

DATE MAILED: 06/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/509,928

Applicant(s)

IKEMOTO ET AL.

Examiner

Richard K. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-91 is/are pending in the application.
- 4a) Of the above claim(s) 60-74, 78, 82, 83, 88 and 91 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-59, 75-77, 79-81, 84-87, 89 and 90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. Claims 60-74, 78, 82, 83, 88 and 91 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species claim, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 19.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 51-53, 56-58 and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Tani et al. (5,294,910).

Tani et al. teaches a low-resistance resistor comprising:

a resistor element 12 (see fig. 6) of metal sheet covered with an insulating layer 17;

a metal terminal 21a (comprising of 18a), the terminal has a groove of a width fittable to the resistor element 12;

an insulating substrate 11 of alumina (col. 3, line 27); and

a third metal 20a is inserted between the resistor element 12 and the terminal 21a.

Regarding the "conductivity" the terminal would inherently have equal or greater conductivity than the resistor element.

Regarding claim 52, the terminal 18a (T+T; see fig. 6) is thicker than the thickness of the resistor element 12.

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Regarding claim 58, insulating layer 17 covers a part of the resistor element 12 (see fig. 6).

Regarding claims 75-76, 80-81, 86 and 89 Tani et al. teaches the method of manufacturing, the method including:

forming a resistor element 3 with a predetermined resistance (see col. 5, line 63 to col. 6, line 50);

metal terminal with a groove (see fig. 1);

third metal layer 2 formed on the resistor element;

fitting the terminal to the resistor element on both sides;

insulating layer 4 formed after connecting element to the terminal;

printing third metal layer 2;

coating the resistor with a metal different (copper, col. 11, line 29) from the resistor and the terminal (nickel);

trimming the resistor;

4. Claims 75 and 79 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06283301A.

JP'301 teaches a method of manufacturing comprising:

forming a resistor element 31 with a predetermined resistance (see fig. 6);

metal terminal with a grooves 33;

third metal layer 31c formed on the resistor element 31; and

fitting the terminal to the resistor element.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 51, 53, 55-56 and 77 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura et al. (5,907,274).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Kimura et al. teaches a low-resistance resistor (see fig. 1) comprising:

a resistor element 3 with an epoxy layer 4 (col. 6, line 47) covering the resistor element;

a metal terminal 7 (comprising of 5, 6 and 7), the terminal has a groove of a width fittable to the resistor element;

an insulating substrate 1; and

a third metal 2 between the resistor element 3 and the terminal 7.

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Regarding claim 77, the terminal 7 (comprising of 5, 6, 7 and 8) is patterned to top, side and bottom faces of the substrate 1. Connecting the resistor 3 to the metal terminal 7 (portion 8) patterned on the substrate 1.

Regarding claim 87, the terminals are connected to both ends of the resistor. Regarding claim 90, coating the resistor with a metal different (copper, col. 11, line 29) from the resistor and the terminal (nickel).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 54, 59 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al. in view of Smith et al. (5,379,016).

Tani et al. teaches the claimed invention except for the insulating layer completely covering the resistor element.

Smith et al. teaches providing an insulating layer 4 completely covering the resistor element 3 (see fig. 2) to protect the resistor element (see col. 2, line 66).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the resistor element of Tani et al. with the insulating layer as taught by Smith et al., since the covering layer of Smith et al. would provide the resistor element of Tani et al. with environmental protection as well as provide mechanical strength.

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Regarding claims 59 and 85, Tani et al. teaches the claimed invention except for the terminal thickness being at least three times the sum of thickness of the resistor and the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover an optimum or workable ranges, since discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Person et al. discloses a low-resistance resistor device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard K. Lee whose telephone number is (703) 306-9060. The examiner can normally be reached on Mon. to Thur. 5:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (703) 308-7619. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Richard K. Lee
Examiner
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